

16519 U.S. PTO
09/30/03

22141 U.S. PTO
10/6/3204

09/30/03

Docket No. 3788.00

IN THE APPLICATION

OF

JOHN F. KIMBLE

FOR A

WEEP HOLE INSERT

WEEP HOLE INSERT

FIELD OF THE INVENTION

The present invention relates generally to static structures and, more particularly, to
5 walls, ceilings, floors, and roofs designed for ventilation and including a vent plug.

BACKGROUND OF THE INVENTION

Special care must be taken in building stick-built homes to limit the exposure of their
wooden components to moisture that can lead to rotting and premature loss. To this end, the
10 framework comprising most stick-built homes is elevated above the surface of the ground by a
foundation constructed of a more durable material like brick, cinderblock or concrete. Further,
the crawl space formed within the foundation beneath the wooden framework is usually
ventilated to permit moisture coming from the ground to evaporate into the air rather than
condense and be absorbed by surrounding woodwork. The vents or weep holes provided in a
15 foundation for the passage of the air, unfortunately, tend to permit the entry of damaging insects
such as termites into a home.

The problem of insects entering homes through weep holes has not gone unnoticed.
Numerous screens, grates and plugs have been proposed to permit the passage of air through
weep holes yet exclude insects. Most of these products are complex in their construction, costly
20 to manufacture, and difficult to install without special tools -- especially in older homes.
Because of these problems, many homeowners choose to rely upon chemical barriers to prevent
insects from entering into their homes or to kill the insects once they have entered. In many
cases, such reliance has been found to be misplaced as the chemicals had a toxic effect upon the
human inhabitants of the home.

25

SUMMARY OF THE INVENTION

In light of the problems associated with the known barriers for preventing the passage of insects through weep holes in a building foundation, it is a principal object of the invention to provide a product that is easy to insert into a weep hole of a building foundation and is fully effective in excluding insects from the building while permitting the relatively free flow of air through the weep hole. The product can be installed in seconds without resort to specialized tools, adhesives, fasteners or prolonged periods of instruction. The product, in short, is simple and intuitive to use.

It is an additional object of the present invention to provide an insert of the type described that can be employed with building foundation systems of various sorts and can be configured for use with weep holes of varying dimensions. Should the insert be too long for a particular weep hole, it can be easily trimmed.

It is an object of the invention to provide improved elements and arrangements thereof in a weep hole insert for the purposes described which is lightweight in construction, inexpensive to manufacture, long lived, and fully dependable in use.

Briefly, the weep hole insert in accordance with this invention achieves the intended objects by featuring a resilient, air-permeable pad being a tangle of interconnected filaments of sufficient density to prevent the passage of termites through the pad yet permit the relatively free flow of air through the pad. One of a pair of gripping members is secured to each of the opposed sides of the pad. Each of the gripping members is a substantially rigid plate extending the length of the pad and has an outer surface that is roughly textured to increase its grip upon a surface bounding a weep hole.

The foregoing and other objects, features and advantages of the present invention will become readily apparent upon further review of the following detailed description of the preferred embodiment as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention may be more readily described with reference to the accompanying drawings, in which:

FIG. 1 is a perspective view of a weep hole insert in accordance with the present invention shown being cut by a pair of scissors.

FIG. 2 is a cross-sectional view of a weep hole insert positioned within a vent in a foundation wall.

FIG. 3 is a perspective view of the weep hole insert being installed within a vent in a foundation wall.

FIG. 4 is a front view of the weep hole insert showing its side members being compressed toward one another.

Similar reference characters denote corresponding features consistently throughout the accompanying drawings.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the FIGS., a weep hole insert in accordance with the present invention is shown at 10. Insert 10 includes a pad 12 formed of an air-permeable mat bounded on opposite sides by a pair of gripping members 14. The gripping members 14 are provided with indicia or rulings 16 along their lengths indicating places where insert 10 can be conveniently divided into smaller segments 10a having like functional features.

Pad 12 is a resilient tangle of interconnected filaments of sufficient density to prevent the internal passage of insects, such as termites, yet permit the relatively free flow of air. These filaments can be made of any suitable material but are preferably plastic, known for its resistance to insects and weather as well as its low cost. By way of example only, pad 12 could also be formed from fiberglass or steel wool.

The dimensions of pad 12 are variable. Pad 12 is provided with a height that is several times that of a typical weep hole 18, formed in a foundation wall 20 between a pair of adjacent bricks 22, so that insert 10 can be cut into a number of segments 10a capable of filling a number of weep holes. Additionally, pad 12 is provided with a width that is somewhat greater than that of weep hole 18 such that it must be compressed for positioning within weep hole 18. The tendency of pad 12 to spring back to its uncompressed configuration serves to anchor insert segments 10a within weep hole 18 during use.

Gripping members 14 are adhesively secured to the opposite sides of pad 12. As shown, each of the gripping members 14 extends from the top to the bottom of pad 12 and from the front to the back of pad 12. Gripping members 14 are thin, yet rigid, plates formed of plastic or other suitable material. When squeezed together by the application of a light force as indicated by solid lines in FIG. 4, gripping members 14 evenly compress pad 12 along its length.

The outer surfaces 24 of gripping members 14 are roughly textured. This texturing is best supplied by molding such into gripping members 14 so that outer surfaces 24 are provided with a multitude of minute ridges and valleys. On the other hand, the texturing could be supplied with the addition of a granular material in the same way that abrasives are adhered to sandpaper. The texturing of outer surfaces 24 serves to boost their coefficient of friction and help prevent insert segment 10a from being inadvertently dislodged from weep hole 18 during use.

Outer surfaces 24 of gripping members 14 are provided with indicia 16 that aid a user in trimming insert 10. Indicia 16 may be provided upon outer surfaces by any suitable means like printing or molding. Regardless, indicia 16 are spaced from one another at intervals corresponding with that of typical weep hole heights, i.e., the heights of courses of bricks or cinderblocks.

The use of insert 10 is straightforward. First, the height of weep hole 18 is measured and a segment 10a of corresponding length is cut with scissors 26 from insert 10 with reference to indicia 16 or otherwise. Second, gripping members 14 are squeezed together, compressing pad 12. Then, insert segment 10a is slid forward into weep hole 18 so that the front of pad 12 is

5 slightly recessed into wall 20 so that insert segment 10a cannot be accidentally bumped and dislodged from weep hole 18 later. Next, insert segment 10a is released from the grip of an installer thereby permitting pad 12 to expand and drive gripping members 14 into bricks 22 and to lock insert segment 10a within wall 20. Air can now flow through insert segment 10a and weep hole 18 to ventilate the building of which wall 20 forms a part while insects are effectively

10 excluded from the building. While the entire installation process requires only a few seconds to complete, its benefits last for years.

While the invention has been described with a high degree of particularity, it will be appreciated by those skilled in the art that modifications may be made thereto. Therefore, it is to be understood that the present invention is not limited to the sole embodiment described above, but encompasses any and all embodiments within the scope of the following claims.